

Analysis Report

The equipment under test (EUT) is a 915MHz transmitter (i.e. Sensor) for a weather station system. The sensor is operating at 915MHz and it sends the data to the main console (corresponding receiver unit) for measurement. The EUT is powered by 2 x AA batteries (3.0VDC).

Antenna Type: Internal integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 93.5dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 96.5dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 1.34\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain
So;

Conducted Power = 1.34mW.

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}} \\ &= 3.0 * 5 / \sqrt{0.915} \text{ mW} \\ &= 15.7 \text{ mW} \end{aligned}$$

Since the above conducted output power is well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.